

Climatological Data for December, 1909.
DISTRICT No. 3, OHIO VALLEY.

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GENERAL CLIMATIC CONDITIONS.

The conditions that characterized the month of December, 1909, were diametrically opposite to those of the month of November preceding. The average temperature in November was the highest in nearly all parts of the district for any November in the past two decades or more, while the temperature during December averaged the lowest for any December for a corresponding period. In nearly all parts of the district the reports were that December was the coldest, with few exceptions, since the records began. There were no extremely low temperatures registered, but the low average was due to the long duration of the cold weather. Precipitation over the district, as a whole, was about normal. The only deficiency worth mentioning occurred in the northeastern section and over parts of Tennessee and the Virginias, while the only excess of importance occurred along the southern border of the district. Although in southwestern Virginia there was a deficiency as compared with the normal for the month, yet there was sufficient moisture to effectually break the drought which had prevailed in that section during the past several months. In much of the district, but especially in the mountain sections and over the northern portions, snowfall was somewhat heavier than is usual in December. In fact, in West Virginia the snowfall was reported the heaviest recorded in any one month. Over a considerable portion of West Virginia there were from 12 to 27 inches, while at Pickens, Randolph County, 35 inches were measured. Over the States north of the Ohio River the snowfall ranged from 8 to 15 inches, and considerable snow fell as far south as northern Georgia.

TEMPERATURE.

The month began with temperature decidedly above normal, the warm weather of November continuing over into December during the first 5 or 6 days. During this time the maximum temperatures registered 60° and over on several days in nearly all parts of the district, and 70° and over in West Virginia, Ohio, Tennessee, and Kentucky. Following a general storm which developed in Texas and extended over the lakes and central valleys during the 4th and 5th, and which was accompanied by moderately heavy rains, there was a decided fall in temperature, and from the 6th to the 11th unusually cold weather prevailed, the temperature ranging from 6° to 24° below normal. About the 12th another general storm moved into the Mississippi Valley, terminating the cold weather temporarily. This storm brought moderately heavy to heavy rains over all the district and the temperature up to or slightly above normal.

After the passage of this marked disturbance, high pressure areas largely prevailed during the rest of the month, and under their influence the temperature was persistently low. The average daily temperature ranged between 10° and 28° below normal, while maximum temperatures for the day were largely below freezing, even to the southern limits of the district. The lowest temperatures were recorded on the 29th or 30th, when minimum temperatures of between zero and 13° below were reported in States north of the Ohio River and in Kentucky and a small section of Tennessee, and about zero in the rest of the district.

The greatest deficiency in temperature during the month occurred in Indiana, Illinois, and the southwestern part of Tennessee, where the daily average ranged from 8° to slightly more than 9° below normal. The least deficiency was in the northeastern part of the district, the mean temperature in western Pennsylvania and southwestern New York being only from 2° to 5° below normal. Over the rest of the district the deficiency ranged between 5° and 8°.

PRECIPITATION.

Precipitation was about normal and was well distributed through the month. In one or two States, notably Indiana and Ohio, precipitation occurred practically every day. The main periods of rainfall were from the 2d to the 7th, the 11th to the 14th, and 18th to the 19th. Heavy precipitation, mostly snow, occurred in the periods from the 24th to the 29th. The heaviest precipitation for the month occurred along the southern border of the district, where it was between 5 and 8.5 inches. Amounts between 4 and 5 inches occurred in the section bordering the lower Ohio River and over the Cheat River section of West Virginia. Over the rest of the district the amounts ranged between 2 and 4 inches, except that it was less than 2 inches in small areas in the southwestern portion of Pennsylvania, the Panhandle of West Virginia, and over most of the watershed of the Big Sandy.

Excessive precipitation occurred at the following places, all in the upper Tennessee watershed: Rock House, 3.63 inches, Diamond, 3.45, and LaFayette, 2.75 on the 7th; Hendersonville, 2.80 inches on the 12th and 13th; and Brevard, 3.20 inches on the 13th.

CONDITIONS OF RIVERS.

The stage of water in the rivers was low during the first part of the month. General precipitation caused moderate rises later in the month. The smaller rivers were frozen by the 15th and remained frozen for the rest of the month. Most of the larger tributaries at the headwaters of the Ohio were frozen over by the 20th and one or two as early as the 10th, notably the Allegheny. The Ohio River was about two-thirds full of heavy floating ice by the 20th, extensive ice gorges blocking the stream in many places, and at the close of the month enormous packs menaced all river craft and bridges. There was a general suspension of navigation during the last week or 10 days of the month.

MISCELLANEOUS.

Heavy sleet storms badly crippled transportation lines and wire connections in Indiana and Ohio during the night of the 10th and 11th, and in western Pennsylvania during the 12th and 13th. Sleet storms also caused considerable trouble in Tennessee and Georgia during the 24th and 25th.

General storms passing over the Ohio Valley were unusually numerous during the month, and several of them were quite severe. Most of them moved well to the southward before entering the Mississippi Valley. Those in the early part of the month were attended by rains and occasional thunderstorms, while those in the latter part were accompanied by more or less heavy snow. The disturbance causing the most damage was that of the 5th—the storm which terminated the warm period and ushered in the cold. The area of extensive or serious damage, however, was mostly confined to the Wabash section of Indiana and came through severe local and secondary disturbances induced in the southeast quadrant of the general storm. Several of these had seemingly tornadic characteristics. The severest of them, as far as could be learned, occurred at Terre Haute, of which the Section Director for Indiana reports as follows:

On Sunday, December 5, 1909, at about 11:50 a. m., a severe wind and rain storm struck the city of Terre Haute, Ind. It passed from southwest to northeast through the center of the business district, destroying portions of several brick buildings, unroofing a number of others, breaking many windows, and leveling shade trees and telephone poles that stood within its path. No lives were lost, but several narrow escapes occurred. The damage to property is variously estimated at \$15,000 to \$25,000. A number of eyewitnesses observed a pendant funnel-shaped cloud, and describe it

as moving along with a violent whirling motion, its lowest extremity being some distance above the ground, at times approaching near to the surface and then rising several hundred feet into the air. A close examination of objects affected by the wind shows that, while the storm did not have all the features of a well-developed tornado, it was closely allied with that type of storm, and that the missing characteristics were probably due to the fact that the full force did not reach down to the surface of the ground, and probably did not possess the energy, as a whole, that is usual in the well-developed types.

Prof. J. T. Scovell, of Terre Haute, an eye witness, in an extended account of the storm states, among other things, that it seemed to arise on the river

near the foot of Park street and pursued a somewhat irregular course toward the northeast, fading out near Twenty-fifth street and the Vandalia Railway. It made great waves in the river and tore several boats from their moorings. It appeared as a black funnel-shaped cloud whose parts were in violent motion. A large 4-story building which was in the path of the storm was partially unroofed, although the fourth story portion was not disturbed. Window casings on the north side of the building were pushed out at the bottom, while shocks of corn stalks in the field immediately north of the building were not disturbed. Many evidences of the variation in direction of the force of the wind were found which indicated a gyratory movement.

TABLE 1.—Climatological data for December, 1909. District No. 3, Ohio Valley.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.		Prevailing wind direction.	Observers.					
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.				
<i>New York.</i>																						
Allegany.....	Cattaraugus.....	1,441	3	29.5		58	4	-11	30	37	2.09	-	0.50	15.6	17	1	6	24	w.	Charles E. Whitney.		
Bolivar.....	Bolivar.....	1,800	13	23.6	- 1.8	57	5	- 8	30	35	1.48	-	1.33	0.40	8.8	14	4	4	23	sw.	Lowell Andrus.	
Franklinville.....	Cattaraugus.....	1,598	12	22.7	- 2.0	59	1	-12	30	41	1.86	-	1.36	0.20	16.2	19	5	2	24	w.	John W. Kales.	
Jamestown.....	Cattaraugus.....	1,365	19																			
Olean.....	Cattaraugus.....										1.64		0.44	11.3	13	2	2	27	w.	John W. Alles.		
<i>Maryland.</i>																						
Deer Park.....	Garrett.....	2,457	15	22.3	- 5.5	66	5	- 5	30	41	3.89	+	0.17	1.00	30.0	9				S. P. Specht.		
Grantaville.....	do.....	2,351	15	23.0	- 6.0	80	5	- 2	30	30	5.62	+	1.80	2.30	27.0	10	5	4	22	J. S. Miller.		
Oakland.....	do.....	2,461	9	23.4		69	5	- 4	30	44	2.78		0.60	17.8	19	4	9	18	w.	R. E. Weber.		
<i>Pennsylvania.</i>																						
Aleppo.....	Greene.....	1,135	8	27.4		69	5	- 2	30	37	1.92		0.40	13.0	12	9	4	18	sw.	J. S. Hinerman.		
Baldwin.....	Butler.....	1,404	3	23.4		58	6	0	30	31	3.27		0.94	16.2	12	4	2	25	w.	S. H. Templeton.		
California.....	Washington.....	770	6	29.0		82	2	5	30	37					Prof. E. H. Knobbenhue							
Claysville.....	do.....	1,127	5	26.9		71	5	- 2	30	39	2.23		0.58	10.8	10	11	5	15	w.	E. T. Buchanan.		
Derry Station.....	Westmoreland.....	1,172	12	27.0	- 7.4	68	5	- 3	30	40	2.24	-	1.15	0.92	11.0	13	0	2	20	w.	D. M. Wineman.	
Franklin.....	Venango.....	955	35	24.6	- 4.5	53	5†	- 2	20	36	2.42	-	0.92	8.5	6	3	8	21	sw.	Venango Water Co.		
Freeport.....	Armstrong.....	772	31								2.99	-	0.46	10.5	18							
Greensburg.....	Westmoreland.....	1,100	1	26.0		67	5	- 2	30	37	2.05		0.44	14.2	13	8	2	21	sw.	M. W. Crownover.		
Greenville.....	Mercer.....	950	13	24.6	- 6.4	61	5	1	20	39	2.48	-	0.31	0.67	18.2	14	7	4	20	w.	A. M. Orr.	
Grove City.....	do.....	1,250	2	23.8		60	5	- 3	30	36	2.38		0.80	12.1	15	8	4	19	sw.	H. W. Harmon.		
Indiana.....	Indiana.....	1,350	12	25.4		67	5	- 2	30	33	3.14		1.08	18.0	11	6	7	17	sw.	Rev. J. M. Welch.		
Irwin.....	Westmoreland.....	884	12	27.7	- 5.3	69	2	- 2	30	47	1.79	-	1.41	0.55	4.8	9	2	20	w.	J. B. Gallagher.		
Johnstown.....	Cambria.....	1,184	21	26.4	- 6.3	60	5	0	30	34	3.70	-	0.01	1.02	15.7	18	4	15	12	nw.	E. C. Lorentz.	
Lyciups.....	Westmoreland.....	1,420	17	26.2	- 6.1	69	5	- 4	30	37	3.05	-	0.51	0.93	27.1	17					Murray Forbes.	
Pittsburg.....	Allegheny.....	843	39	26.8	- 7.9	65	5	- 1	30	35	2.90	-	0.43	8.6	14	4	8	19	w.	U. S. Weather Bureau.		
Saegeertown.....	Crawford.....	1,118	18	27.6	- 1.2	80	5	1	21	42	2.36	-	1.05	0.42	15.5	18	3	3	25	sw.	J. G. Apple.	
St. Marys.....	Elk.....	1,740	11	21.5	- 4.6	52	1	- 3	29	31	2.97	+	0.08	1.40	13.5	10	6	9	16	sw.	Wm. E. Wittman.	
Skidmore.....	Lawrence.....	1,000	24	24.0		60	1†	- 3	30	38	2.14		0.80	8.0	7	8	1	22	sw.	W. H. Stoner.		
Somerset.....	do.....	2,250	53	22.5	- 6.2	85	5	- 5	30	36	3.69	-	0.39	0.80	28.2	15	5	9	17	nw.	W. M. Schrock.	
Unlontown.....	Fayette.....	999	21	27.6	- 7.4	70	5	0	30	38	2.43	-	1.33	0.50	16.5	14	11	1	19	sw.	Wm. Hunt.	
Warren.....	Warren.....	1,137	20	24.4	- 3.4	56	5	2	30	32	2.54	-	0.84	0.40	17.8	12	7	1	23	sw.	Anna Simpson.	
<i>West Virginia.</i>																						
Aborvile.....	Pocahontas.....	1	5	29.9		75	5	- 2	30†	41	1.90			6.5	11	9	1	21	nw.	W. E. Arbogast.		
Bancroft.....	Putnam.....	5	29.8	- 3.6	75	1†	- 2	30	50	2.25	-	0.71	1.20	16.5	6	16	0	15	w.	James Hill.		
Beckley.....	Raleigh.....	2,440	10	29.8		71	5	4	30	37	3.16	-	0.97	12.0	10	21	2	8	sw.	John A. Ewart.		
Ben's Run.....	Pleasants.....	622	6	28.8		71	5	0	30	31					Agent N. & W. Ry. Co.							
Bluefield.....	Mercer.....	2,563	13	31.1	- 3.7	63	6	3	31	38	2.46	-	1.69	0.60	1.1	10	11	7	13	sw.	J. D. Riggs.	
Buckhannon.....	Upshur.....	1,473	13	28.8	- 4.3	70	5	- 3	31	38	2.46	-	1.69	0.60	1.20	10	9	7	13	nw.	H. A. Darnall.	
Cairo.....	Ritchie.....	887	7	30.0		72	5	3	20	46	2.65	-	0.63	9.0	9	7	11	13	sw.	Van A. Zevely.		
Central Station.....	Doddridge.....	900	9	26.4	- 6.7	70	5	- 1	31	43	2.17	-	1.21	0.71	10.5	10	5	11	15	w.	G. W. Sherwood.	
Charleston.....	Kanawha.....	598	6	33.4		71	5	5	30	40	1.69	-	1.49	0.46	4.2	7	8	6	17	w.	R. C. Hewes.	
Creston.....	Wirt.....	612	7	29.8		93	5	5	30	34	2.06	-	0.63	8.3	11	5	7	19	w.	J. M. Reed.		
Cuba.....	Jackson.....	544	7	29.7		74	5	1	30	49	1.94	-	1.24	0.60	4.5	9	8	12	11	sw.	C. T. Perry.	
Doane.....	Wayne.....		4																	G. W. Jude.		
Elkhorn.....	McDowell.....	1,933	14	32.2	- 5.3	70	5	0	30	35	2.82	-	0.34	0.80	6.7	11	9	9	13	nw.	J. J. Lincoln.	
Elkins.....	Randolph.....	1,940	10	26.6	- 5.9	71	5	- 2	30	41	2.02	-	1.40	0.64	13.2	16	3	8	20	w.	U. S. Weather Bureau.	
Fairmont.....	Marion.....	879	4	28.4		71	5	3	31	41					Geo. T. Argabrite.							
Glenville.....	Gilmer.....	733	14	30.5	- 4.3	75	5	1	31	44	2.98	-	0.74	0.65	10.0	11	2	19	19	sw.	H. C. Ragland.	
Grafton.....	Taylor.....	985	16	28.5	- 5.4	74	5	0	31	44	2.52	-	0.92	0.83	6.7	12	9	11	11	sw.	Allen Smith.	
Green Sulphur Springs.....	Summers.....	1,600	13																			
Hinton.....	do.....	1,400	13																		M. Gwynn.	
Huntington.....	Cabell.....	510	12	29.2	- 5.2	73	5	0	30	39	2.40	-	2.72	- 0.02	1.50	5.5	12					R. R. Flanagan.
Lewisburg.....	Greenbrier.....	2,200	8	29.0	- 3.7	67	5	- 3	31	39	2.35	-	0.56	1.11	4.5	7	8	9	15	w.	L. H. Hutchinson.	
Logan.....	do.....	885	7	35.0		78	5	- 4	30	40	2.85	-	0.85	11.0	7	7	22	2	sw.	Geo. T. Argabrite.		
Lost Creek.....	Harrison.....	1,033	11	28.8	- 4.5	75	5	- 2	31	46	2.36	-	1.27	0.80	6.8	11	9	4	18	w.	H. C. Ragland.	
Madison.....	Boone.....	704	4	28.3		75	5†	2	31	46	2.36	-	1.27	0.80	6.8	11	9	4	18	w.	Allen Smith.	
Mannington.....	Marion.....	967	6	27.0		67	5	- 5	30	38	2.93	-	0.80	10.2	16	8	4	19	w.	S. E. Bradley.		
Mongontown.....	Pocahontas.....	1,250	13	24.8	- 5.6	69	5	1	30	38	2.00	-	1.22	0.48	6.0	9	9	13	9	w.	Jas. A. Morgan.	
Marlinton.....	do.....	2,169	10	24.9	- 5.5	54	5	- 4	31	33	3.34	-	0.34	2.00	5.8	4	12	5	13	sw.	Horace Atwood.	
Moundsville.....	Marshall.....	640	6	29.2		73	5	2	30	41	1.85	-	0.57	5.0	9	17	1	13	sw.	N. C. McNeil.		
New Cumberland.....	Hancock.....	987	9	26.0	- 5.3	70	5	- 3	30	39	2.24	-	0.10	0.85	7.0	9	3	7	21	w.	J. E. Matthews.	
Nuttallburg.....	Wetzel.....	634	14	30.4	- 4.4	73	5	0	30	39	2.40	-	1.05	1.00	9.0	10	19	1	11	sw.	Frank S. Evans.	
Parkersburg.....	Fayette.....	2,252	12	24.5		63	5	- 1	30	30	2.27	-	0.65	0.84	15.5	6	6	8	17	sw.	Wm. Ankrum.	
Parsons.....	Wood.....	638	21	29.6	- 5.7	71	5	1	30	33	1.99	-	0.78	0.72	6.6	12	4	11	16	sw.	Stephen Tully.	
Philippl.....	Tucker.....	1,662	7	25.8	- 5.6	71	5	- 10	30	34	1.49	+	0.32	1.40	27.5	10	5	8	18	w.	U. S. Weather Bureau.	
Pleokens.....	Barbour.....	1,192	10	28.4	- 4.6	72	5	- 3	31	45	2.71	-	1.21	0.75	9.8	14	3	10	13	nw.	J. W. Swisher.	
Randolph.....	do.....	2,785	16	25.4	- 7.3	73	5	- 6	30	36	4.00	-	0.97	1.20	35.0	14*	7*	6*	18	w.	J. D. Dadisman.	
Pineville.....	Wyoming.....		1																		E. M. Cunningham.	
Point Pleasant.....	Mason.....	553	14	28.8	- 5.6	65	6	2	30	37	1.80	-	1.20	0.54	4.0	8	2	5	24	sw.	E. H. Armstrong.	
Powellton.....	Fayette.....	904	13	33.24	- 2.6	71	5	5	30	40	2.65	-	0.24	1.40	17.0	7	3*	3*	25	nw.	S. M. Painter.	
Princeton.....	do.....	2,469	6	26.8		64	5	- 4	30	38	3.70	-	1.10	21.0	19	10	2	13	9	w.	C. L. Lane.	
Robertsburg.....	Putnam.....																					
Roane.....	Roane.....	693	5	29.4																		

TABLE 1.—*Climatological data for December, 1909. District No. 3—Continued.*

Stations.	Counties	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, 0.1 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
				Length.	High.	Date.	Low.	Date.	Max.	Total.	High.	Max.	Max.	Length.	High.	Length.	Max.			
Ohio—Cont'd.																				
Cincinnati.	Hamilton.	628	39	28.0	-8.4	65	5	-3	30	35	2.40	-0.53	0.90	5.8	11	6	5	20	sw.	U. S. Weather Bureau.
Circleville.	Pickaway.	694	15	27.2	-4.7	68	5	-5	30	26	3.34	+0.62	0.80	6.7	11	9	13	9	w.	Samuel W. Courtright.
Clarington.	Monroe.	600	7	27.6	.....	74	5	-4	30	43	2.52	-1.00	0.71	10.3	16	3	13	15	sw.	Col. S. Tschappat.
Clarkesville.	Clinton.	1,010	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. T. M. Williams.
Columbus (1).	Franklin.	918	32	25.8	-7.0	67	5	-4	30	39	2.58	-0.18	0.91	11.0	13	6	12	13	w.	U. S. Weather Bureau.
Columbus (2).	do.	757	27	25.8	-5.5	68	5	-5	34	34	2.68	+0.06	0.82	10.3	10	6	12	13	w.	Ohio State University.
Columbus (3).	do.	1	28.4	.....	.....	68	5	-2	30	34	2.81	.....	0.97	10.9	16	5	13	13	w.	Capt. Paul Mason.
Columbus Reservoir.	do.	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.41	.....	1.26	7.7	5	5	2	24	sw.	Superintendent.
Coshocton.	Coshocton.	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.05	.....	0.95	.....	.....	.....	.....	.....	.....	Mrs. Ada Jeffries.
Dayton (1).	Montgomery.	790	27	26.4	-6.6	67	5	-5	30	32	2.59	-0.16	0.66	8.7	13	4	15	12	w.	Edith E. L. Boyer.
Dayton (2).	do.	16	.....	.....	.....	.....	.....	.....	.....	.....	3.03	+0.51	0.71	7.0	13	.....	.....	.....	.....	Mrs. D. D. Rist.
Delaware.	Delaware.	927	13	24.5	-4.5	68	5	-9	30	35	2.56	+0.04	0.85	9.4	14	8	6	17	sw.	L. H. Hudson.
Demos.	Belmont.	1,325	20	26.5	-5.9	70	5	-3	30	36	2.59	-0.39	0.82	9.2	12	9	9	13	sw.	J. F. Dysart.
Frankfort.	Ross.	750	17	29.0	-4.1	69	5	-3	30	36	2.61	-0.18	0.67	4.5	8	10	3	18	sw.	O. A. Cory.
Garretttsville.	Portage.	1,005	25	23.4	-5.4	61	5	-2	30	35	2.09	-0.80	0.57	14.2	14	5	7	19	w.	S. M. Luther.
Granville.	Licking.	980	25	25.8	-5.6	68	5	-6	30	34	3.78	+0.64	1.05	17.3	11	9	6	16	w.	Dr. L. E. Davis.
Gratiot.	do.	1,000	19	25.2	-6.9	66	5	-5	30	34	3.52	+0.49	1.00	13.7	11	8	10	13	w.	W. B. Longstreth.
Green.	Adams.	500	17	30.7	-4.5	75	5	-5	30	45	2.04	-1.31	0.83	6.5	8	10	5	16	nw.	W. F. Kenyon.
Green Hill.	Columbiana.	1,135	18	23.2	-5.6	66	5	-11	30	33	2.20	-0.44	0.75	10.2	12	5	9	17	sw.	Jos. E. Bentley.
Greenville.	Darke.	1,060	24	23.5	-7.3	60	5	-9	30	33	3.07	+0.68	1.47	10.5	7	5	14	12	s.	G. A. Katsenberger.
Hillsboro.	Highland.	2	27.8	.....	.....	70	5	-6	30	33	2.51	.....	0.64	8.0	17	7	8	16	sw.	Carey H. Roush.
Ironton.	Lawrence.	575	27	30.8	-4.8	75	5	0	30	40	1.49	-1.38	0.72	3.0	8	9	7	15	sw.	James Bull.
Jacksonburg.	Butler.	975	22	25.3	-6.0	67	5	-11	12	36	4.19	+1.63	2.00	12.0	7	11	13	12	nw.	Dr. J. B. Owlesley.
Kenton.	Hardin.	7	23.4	.....	.....	65	5	-9	30	34	2.55	.....	0.70	10.0	9	6	13	12	sw.	N. S. Martin.
Killbuck.	Holmes.	1,087	17	24.6	-4.7	67	5	-3	30	42	2.71	-0.08	1.00	5.5	5	6	6	13	nw.	Geo. W. Nowells.
Lancaster.	Fairfield.	898	14	28.2	-3.1	68	5	-5	30	31	2.49	-0.25	0.65	11.5	10	13	2	16	sw.	R. L. Renshaw.
Lawshe.	Adams.	900	6	27.8	.....	72	5	-6	31	40	2.53	.....	1.10	5.5	13	13	4	14	w.	Ruth W. Hoffman.
McConnelsville.	Morgan.	710	26	27.0	-6.0	72	5	-2	30	34	3.06	+0.12	0.86	11.7	14	4	10	17	sw.	C. H. Morris.
Marietta.	Washington.	637	66	30.9	-3.2	69	5	2	30	35	3.24	-0.13	0.96	6.0	10	8	9	14	s.	Prof. T. D. Biscoe.
Marion.	Marion.	980	19	25.6	-4.6	67	5	-8	30	34	2.90	+0.50	0.96	18.3	12	6	10	15	w.	E. H. Raffensperger.
Milfordton.	Knox.	1,200	17	24.8	-3.9	68	5	-6	30	35	3.02	+0.67	1.28	15.0	11	8	12	11	sw.	L. H. Burgess.
Milligan.	Perry.	875	16	25.8	-6.1	69	5	-9	30	42	2.48	-0.46	0.87	7.5	10	9	12	12	sw.	V. C. Eyeland.
Millport.	Columbiana.	1,145	13	23.7	-3.9	65	5	-6	30	39	1.81	-0.98	0.54	10.0	12	4	7	20	sw.	G. F. Copeland.
Nellie.	Coshocton.	850	9	25.5	.....	68	5	-3	30	36	1.09	-0.84	1.20	9.0	7	16	7	8	sw.	E. L. Gamertsfelder.
New Alexandria.	Jefferson.	1,050	25	25.6	-6.9	66	5	-4	30	43	3.06	-0.26	0.98	14.0	7	11	4	16	w.	Mrs. Mary K. Pennell.
New Berlin.	Stark.	1,100	17	24.0	-5.1	65	5	-12	30	38	2.06	-0.55	0.82	10.5	8	11	6	14	w.	Clayton Holl.
New Richmond.	Clermont.	788	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Sam. C. Scott.
New Waterford.	Columbiana.	1,053	16	24.2	-5.0	60	5	-2	30	35	1.93	-1.54	.....	14.5	7	12	0	19	sw.	C. B. Wade.
North Lewisburg.	Champaign.	1,095	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. N. Ridenour.
Orangeville.	Trumbull.	945	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. C. Burkhalter.
Pataksala.	Licking.	1,050	17	25.4	-5.2	66	5	-7	30	33	3.07	-0.31	0.91	10.9	14	5	11	11	sw.	John S. Hardilla.
Philo (1).	Muskingum.	1,018	15	26.4	-4.3	67	5	-2	30	40	2.02	-0.40	0.60	7.0	10	7	12	12	sw.	F. E. Stewart.
Philo (2).	do.	6	27.4	.....	.....	70	5	0	30	44	2.74	.....	1.08	9.2	12	7	12	12	sw.	W. G. Branch.
Plattsmouth.	Clark.	1,130	17	24.8	-5.9	66	5	-10	30	26	3.52	+0.58	0.80	16.5	10	7	10	14	w.	Dr. H. A. Schirrman.
Pomeroy.	Meigs.	781	26	29.8	-5.5	72	5	-1	30	41	2.26	-0.14	0.76	8	6	12	13	13	sw.	J. B. Gish.
Portsmouth.	Scioto.	527	79	29.0	-7.3	71	5	-1	30	33	2.78	-0.59	1.20	5.0	10	11	4	16	w.	T. B. Arnett.
Rittman.	Wayne.	990	17	24.2	-5.0	65	5	-8	30	30	2.18	-0.45	1.02	8.5	11	6	16	19	w.	H. B. Blake.
Shenandoah.	Richland.	1,100	18	21.9	-6.7	65	5	-7	30	39	1.85	-0.56	0.67	6.8	12	1	12	18	sw.	Miss M. C. Sheridan.
Sidney.	Shelby.	935	15	25.0	-3.9	64	5	-10	30	33	2.76	-0.10	0.60	13.2	11	9	5	17	sw.	W. A. Webster.
Somerset.	Perry.	1,080	11	24.2	-7.5	67	5	-7	30	36	3.05	+0.47	0.65	12.5	12	10	7	14	s.	H. R. McClintock.
Springfield.	Clark.	4	26.6	.....	.....	69	5	0	30	42	3.19	+0.64	0.69	8.0	12	5	16	10	sw.	D. D. Thomas.
Summerfield.	Noble.	266	17	29.8	-4.8	67	5	-2	30	51	3.11	-1.00	0.85	4.0	15	7	10	15	w.	Prof. J. H. Williams.
Thurman.	Callia.	1,096	17	24.4	-3.6	67	5	-14	30	33	2.06	-0.26	0.57	12.4	10	8	10	13	sw.	M. D. McCorkle.
Urbana.	Trumbull.	1,031	14	25.0	-5.1	61	5	1	30	34	3.06	-0.20	0.97	15.1	15	6	7	18	sw.	D. L. Lorbach.
Warren.	Pike.	590	27	28.8	-5.4	74	5	-7	30	41	2.61	-0.38	0.80	10.2	13	3	15	15	sw.	Charles Michener.
Waverly.	Warren.	700	25	25.6	-4.3	68	5	-10	30	27a	2.92	+0.13	0.75	8.5a	9a	10	8	13	sw.	Experiment Station.
Waynesville.	Wayne.	1,030	25	25.3	-5.5	66	5	-6	30	35	2.55	-0.23	0.99	9.8	14	3	3	25	w.	G. R. Patton.
Youngstown.	Mahoning.	2,200	.....	.....	.....	.....	.....	.....	.....	.....	1.95	.....	0.50	17.2	11	16	0	15	w.	S. G. Sprague.
Zanesville.	Muskingum.	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.56	-0.26	0.76	8.6	14	10	0	21	w.	John W. Fox, sr.
Virginia.	Wise.	1,540	18	31.8	-4.2	68	5	-5	30	36	2.72	-1.15	0.90	8.0	5	6	4	21	n.	Agric. Experiment Sta.
Blacksburg.	Montgomery.	2,170	18	27.8	-7.0	67	5	3	30	42	2.20	-4.06	0.92	3.6	6	10	11	w.	C. H. Greer.	
Burksgarden.	Tazewell.	3,250	30	26.4	-5.8	59	1	-5	30	46	2.14	-1.77	1.08	4.0	4	13	1	17	w.	Henry Nicoll.
Elk Knob.	Lee.	3,243	6	30.1	.....	65	5	-4	30	35	2.69	.....	0.95	5.0	7	11	2	18	sw.	E. C

TABLE 1.—Climatological data for December, 1909. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.					
Alabama—Cont'd.																				
Riverton.	Colbert.	360	12	33.3	- 7.9	76	4	6	29	40	4.79	- 1.08	2.04	1.5	6	16	4	11	n.	
Scottsboro.	Jackson.	653	26	36.8 ^a	- 6.0	69	4	6	29	33	3.83	- 0.68	1.52	3.8	9	13	7	11	....
Tuscumbia.	Colbert.	488	27	33.2	- 10.6	70	4	10	21	41	4.28	- 0.26	1.21	5.0	3	14	0	17	nw.	
Tennessee.																				
Ashwood.	Maury.	725	31	34.7	- 6.6	70	4	7	30	32	3.12	- 0.95	0.80	3.0	9	18	5	18	n.	
Benton.	Polk.	880	23	35.5	- 6.4	68	4	6	30	36	3.40	- 0.74	1.50	3.0	7	10	12	9	n.	
Byrdstown.	Pickett.	1,026	15	32.0	- 6.9	68	4	1	30	27	1.65	- 2.85	0.50	3.0	7	15	2	15	w.	
Carthage.	Smith.	500	27	34.2	- 5.6	73	4	4	30	32	3.93	- 0.66	1.64	2.7	7	14	9	11	nw.	
Cedar Hill.	Robertson.	625	12	32.8	- 6.9	73	4	12	30	29	4.30	- 0.03	1.50	5.0	7	11	9	11	n.	
Chattanooga.	Hamilton.	808	31	36.5	- 6.1	62	7	9	30	32	5.39	+ 1.03	1.88	7.0	12	12	6	13	nw.	
Clarksville.	Montgomery.	520	43	34.2	- 6.2	73	5	5	30	32	3.03	- 1.52	0.81	5.0	11	14	6	11	sw.	
Decatur.	Melga.	850	14	34.0 ^c	- 5.8	57	6	4	30	31	3.85	- 1.29	1.45	3.5	11	12	6	13	sw.	
Dickson.	Dickson.	800	13	33.0	- 5.1	74	4	1	30	29	4.34	+ 0.04	1.79	8.0	9	10	10	12	n.	
Dover.	Stewart.	15	33.6	- 5.9	76	4	4	30	38	3.37	- 1.73	0.83	T.	8	10	7	14	n.		
Dunlap.	Sequatchee.	726	35.9	72	4	7	30	38	4.08	- 1.56	1.9	9	10	6	15	....	S. B. Boyd.		
Ellisabethton.	Carter.	1,575	20	29.8	- 6.1	72	4	- 4	30	43	3.80	- 1.85	0.08	3.2	11	12	8	11	w.	
Erasmus.	Cumberland.	1,850	13	29.8	- 6.4	70	4	- 4	30	32	3.52	- 1.48	0.95	2.0	8	10	2	19	n.	
Florence.	Rutherford.	500	28	34.4	- 6.3	69	1	6	30	31	3.96	- 0.63	1.55	0.5	8	8	5	18	....
Franklin.	Williamson.	655	18	33.6	- 6.3	69	4	6	30	31	3.01	- 1.59	1.06	1.0	4	7	10	14	nw.	
Harriman.	Rosane.	841	14	33.3	- 5.5	60	4	3	30	37	3.68	- 1.54	1.34	3.0	10	10	11	10	John Lutzelman.	
Hohenwald.	Lewis.	993	24	33.8	- 5.7	73	5	3	30	37	3.68	- 1.54	1.34	3.0	8	8	18	7	Capt. H. P. Seavy.	
Iron City.	Lawrence.	12	34.4	- 6.0	68	4	3	30	37	2.97	- 3.03	0.57	3.6	5	6	7	12	Miss Sallie B. Mathews.		
Johnsonville.	Humphreys.	364	13	33.4	- 6.2	73	4	4	30	36	3.45	- 0.85	0.86	T.	11	9	12	9	James H. Eppa, jr.	
Jonesboro.	Washington.	1,740	13	30.0	- 5.7	63	5	8	30	27	2.49	- 1.67	0.97	1.4	8	9	14	9	U. S. Weather Bureau.	
Knoxville.	Knox.	977	39	34.0	- 5.7	63	5	3	30	28	3.99	-	1.40	0.5	8	9	5	17	Logan Fields.	
Lebanon.	Wilson.	523	28	34.6	- 6.4	70	4	4	30	41	3.44	- 0.99	1.31	2.5	10	8	13	12	Dr. R. D. Crutcher.	
Lewisburg.	Marshall.	727	16	34.0	- 7.3	74	4	4	30	31	2.72	- 1.99	1.35	2.0	8	8	12	11	Col. J. H. Burrow.	
Lynnville.	Giles.	770	21	34.0	- 7.0	68	4	7	30	31	2.72	- 1.99	1.35	2.0	8	8	12	11	J. T. Sparkman.	
McMinville.	Warren.	1,011	26	34.2	- 6.6	75	4	- 1	30	33	3.59	- 0.87	1.30	9.4	11	9	11	11	Mrs. F. E. Benedict.	
Maryville.	Blount.	1,050	15	34.8	- 5.1	66	5	5	30	33	2.84	- 2.06	1.00	2.4	9	10	8	13	E. E. Barry.	
Mountain City.	Johnson.	2,488	13	30.6	- 3.4	70	5	- 6	31	46	1.66	- 2.22	0.90	5.0	5	14	3	U. S. Weather Bureau.		
Nashville.	Davidson.	654	39	34.8	- 6.3	72	4	6	30	29	2.90	- 0.92	1.24	0.8	11	8	15	Dr. C. T. Burnett.		
Newport.	Cooke.	1,280	19	32.5	- 6.1	56	5	- 5	30	35	2.35	- 2.05	0.75	3.0	3	14	8	Mrs. Ross Woods.		
Palmetto.	Bedford.	770	16	34.2	- 7.0	72	4	5	30	37	2.56	- 2.20	1.05	2.5	5	8	13	Miss Carrie Cash.		
Pinewood.	Hickman.	3	35.0	- 7.5	74	4	2	30	44	4.33	-	1.67	T.	8	8	13	9	Miss Beatie Howard.		
Pope.	Perry.	13	31.1	- 9.0	78	5	5	29	45	4.80	- 0.60	2.30	4.0	5	13	3	10	Fred Bell.		
Rogersville.	Hawkins.	25	32.6	- 5.3	68	5	1	30	38	2.42	- 1.08	0.80	2.0	7	12	w.	S. G. Wilson.			
Rugby.	Morgan.	1,150	22	30.5	- 6.9	70	4	- 5	30	41	3.85	- 0.54	1.25	8.0	7	10	6	15	W. F. Bell.	
Savannah.	Hardin.	1,410	22	30.5	- 6.9	70	4	- 5	30	41	3.85	- 0.54	1.25	8.0	7	17	0	14	H. O. Eckel.	
Sevierville.	Sevier.	442	26	38.1	- 3.8	72	4	9	21	38	4.57	- 0.17	1.50	2.0	8	17	5	18	University of South.	
Sewanee.	Franklin.	2,000	15	32.2	- 6.2	68	3	0	30	31	4.00	- 1.90	0.72	3.5	8	7	6	18	E. H. Hull.	
Sparta.	White.	920	4	34.4	- 6.2	72	5	- 2	30	38	2.27	-	1.30	2.2	4	8	11	6	14	Mrs. Lucy E. Breeding.
Springdale.	Clairborne.	1,058	30	38.8	- 7.4	67	4	- 5	30	41	2.51	- 1.54	1.20	6.5	6	1	5	25	H. A. Boden.	
Springville.	Henry.	377	7	33.4	- 7.3	73	4	3	30	33	4.92	-	1.44	0.2	10	7	12	9	12	
Tellico Plains.	Monroe.	1,075	21	34.6	- 5.1	70	4	2	30	38	3.41	- 1.91	1.53	2.4	7	9	15	7	R. T. Moore.	
Tullahoma.	Coffee.	753	23	35.4	- 5.4	71	4	5	30	34	4.23	- 0.08	1.30	3.0	9	10	9	12	H. C. Boyd.	
Waynesboro.	Wayne.	12	34.6 ^b	- 5.8	72	4	7	29	33	3.58	- 1.80	0.90	1.3	7	8	5	18	W. R. Wilson.		
Widerville.	Henderson.	850	14	34.9	- 6.0	69	4	6	30	29	3.80	- 1.42	1.35	7	12	6	13	W. F. Watson.		
Yukon.	Lincoln.																			
Kentucky.																				
Alpha.	Clinton.	15	34.6 ^a	- 5.4	66	5	5	30	32	4.77	+ 0.07	1.15	8.0	8	12	4	15	n.		
Anchorage.	Jefferson.	700	8	27.8	- 6.2	70	4	- 6	30	34	2.78	-	0.54	3.4	10	12	14	14	nw.	
Bardstown.	Nelson.	637	13	30.0	- 6.2	70	4	- 3	30	35	3.78	- 0.19	0.97	1.0	10	9	12	20	sw.	
Beattysville.	Lee.	650	6	28.5	- 3.1	72	4	- 11	30	49	2.54	-	0.84	10.0	10	5	8	18	w.	
Beaverdam.	Ohio.	441	6	28.8	- 9.9	73	4	- 4	30	38	2.77	-	0.84	3.2	9	11	2	18	nw.	
Berea.	Madison.	1,070	8	32.2	- 7.4	79	4	- 5	29	41	4.17	-	0.31	4.5	9	7	8	16	sw.	
Bowling Green.	Warren.	500	20	31.0	- 8.2	72	4	3	20	42	3.73	- 0.44	1.00	5.2	13	8	5	18	W. W. Hicks.	
Burnside.	Pulaski.	589	19	32.1	- 6.7	67	4	- 3	30	32	3.94	- 0.08	1.20	2.0	10	14	5	15	C. E. Barrett.	
Cadiz.	Trigg.	7	32.1	- 6.7	67	4	- 3	30	32	3.95	-	0.67	0.67	10	14	12	5	ne.		
Calhoun.	McLean.	397	6	31.2	- 7.2	72	4	- 2	30	37	3.30	-	0.73	0.5	8	7	11	13	s.	
Catlettsburg.	Boyd.	514	16	32.8 ^b	- 3.1	68 ^b	4	- 4	30	39	2.04	-	1.36	4.0	11	17	3	11	nw.	
Earlington.	Hopkins.	370	20	29.3	- 9.9	72	4	- 4	30	46	2.76	-	1.18	0.88	1.5	9	13	0	18	L. C. Alcorn.
Edmonton.	Metcalfe.	800	18	30.2	- 7.4	67	4	- 10	30	44	3.48	-	0.86	1.15	5.2	9	10	13	sw.	
Eubank.	Pulaski.	1,177	15	28.4	- 6.8	68	4	- 3	30	41	3.97	- 0.91	1.20	5.6	12	9	3	19	Miss Gertrude Sorrell.	
Falmouth.	Rowan.	668	4	30.2	- 6.7	73	5	- 14	30	48	2.25	-	0.97	3.5	8	7	8	16	Gustave Schaefer.	
Frankfort.	Franklin.	560	19	30.4	- 6.7	66	4	- 2	30	33	3.46	- 0.09	1.02	3.4	12	8	4	19	J. E. Newman.	
Franklin.	Simpson.	691	16	32.4	- 8.0	70	4	0	30	29	3.82	- 0.18								

TABLE 1.—Climatological data for December, 1909. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Sky.		Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days 0.01 inch or more.	Total number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.
<i>Indiana—Cont'd.</i>																		
Cambridge City.....	Wayne.....	941	10	22.7	- 8.3	65	4 - 14	30 39	3.00	+ 0.33	0.80	10.0	12	14	1	16	w.	Charles Lemberger.
Columbus.....	Bartholomew.....	632	18	- 8.4	62	4 - 11	30 33	2.91	+ 0.18	0.70	4.5	12	6	19	sw.	John A. Perry.		
Connersville.....	Fayette.....	769	20	24.9	- 7.2	63	4 - 11	30 35	2.36	+ 0.46	0.71	6.6	8	14	6	11	w.	C. C. Hibbs.
Delphi.....	Carroll.....	698	16	18.8	- 10.3	64	4 - 17	30 37	3.04	+ 0.78	0.64	19.5	15	8	2	21	sw.	R. L. Higginbotham & Son
Eminence.....	Morgan.....	782	23	23.2	.....	62	1 - 10	30 26	2.29	.....	0.40	10.8	13	8	12	10	w.	Dr. E. E. Kelso.
Evansville.....	Vanderburg.....	386	10	29.2	- 7.2	60	4 - 1	30 31	3.48	+ 0.35	1.14	5.8	11	6	14	11	w.	U. S. Weather Bureau
Farmersburg.....	Sullivan.....	25, 4 ^b	.....	.....	.....	60 ^b	4 - 12 ^b	30 27	2.71	.....	0.52	7.5	10	2	3	16	sw.	Maurice Yeager.
Farmland.....	Randolph.....	1, 101	20	24.4	- 7.9	60	4 - 8	30 36	2.48	- 0.09	0.80	20.0	12	13	6	12	w.	W. J. Davison.
Greenfield.....	Hancock.....	905	.....	23.9	.....	60	4 - 10	30 28	3.10	.....	0.73	6.5	7	20	10	w.	W. C. Goble.	
Greensburg.....	Decatur.....	954	5	25.4	.....	63	4 - 10	30 31	3.08	.....	0.65	9.5	8	16	3	12	sw.	Charles H. Ewing.
Heiltownville.....	Lawrence.....	.....	.....	29.8	.....	67	4 - 2	30 29	4.62	.....	1.54	7	7	11	13	w.	E. L. Palmer.	
Huntingburg.....	Dubois.....	741	11	23.2	- 6.4	61	5 - 10	30 32	2.93	+ 0.32	1.10	16.5	13	7	11	13	w.	H. Dutendach.
Huntington.....	Marion.....	822	33	23.4	- 9.2	60	4 - 8	30 29	2.90	- 0.14	0.70	8.2	11	8	17	w.	Charles McGrew.	
Jeffersonville ^c	Clark.....	455	12	29.5	- 7.4	65	4 - 1	30 31	3.05	- 0.26	0.70	0.5	11	10	9	12	w.	U. S. Weather Bureau.
Judyville.....	Warren.....	19, 17 ^a	.....	59	4 - 22 ^a	30 35*	3.16	.....	1.45	16.2	8	7	6	18	w.	John C. Loomis.		
Kokomo.....	Howard.....	840	11	22.4	- 7.7	60	4 - 12	30 31	2.53	- 0.22	0.67	13.0	7	7	10	14	sw.	D. R. Warick.
Lafayette.....	Tiptpecane.....	617	22	21.0	- 9.1	61	4 - 17	30 31	3.06	+ 0.57	0.58	21.2	15	10	1	20	sw.	John W. Doty.
Logansport.....	Cass.....	620	17	23.3	- 0.0	60	4 - 13	30 29	2.76	+ 0.44	0.73	15.5	8	11	0	20	e.	W. J. Jones, Jr.
Madison.....	Jefferson.....	480	11	28.8	- 6.3	64	4 - 6	30 30	3.75	+ 0.45	0.85	4.0	12	14	3	14	w.	Charles Massena.
Marengo.....	Crawford.....	363	19	27.0	- 9.3	65	4 - 10	30 33	3.53	+ 0.67	0.80	3.5	9	5	18	w.	J. Cooperider.	
Marion.....	Grant.....	814	14	21.8	- 9.7	62	4 - 13	30 33	3.53	+ 1.32	0.79	10.7	12	5	8	18	sw.	J. M. Johnson.
Markle.....	Huntington.....	814	10	21.3	- 6.6	60	4 - 14	30 30	2.60	+ 0.02	0.70	15.0	8	8	8	15	w.	James F. Hood.
Mausy.....	Rush.....	980	21	23.4	- 6.8	63	4 - 12	30 30	3.17	- 0.14	0.70	12.9	12	7	8	16	w.	I. S. Shideler.
Moore's Hill.....	Dearborn.....	25, 6	.....	61	4 - 10	30 26	2.82	.....	0.64	8.2	14	12	15	4	4	nw.	E. K. Kirkwood.	
Mount Vernon.....	Posey.....	410	15	23.0 ^a	- 13.9	56	6 - 2 ^a	30 33	3.12	+ 0.17	1.08	4.0	9	15	0	16	w.	W. S. Bigney.
Paoli.....	Orange.....	611	5	27.8	.....	62	4 - 14	30 33	3.65	.....	1.30	3.5	8	9	9	13	sw.	C. M. Spencer.
Princeton.....	Gibson.....	481	19	27.1	- 8.2	62	5 - 4	30 24	3.64	+ 0.49	1.68	6.5	8	12	6	13	w.	James A. Gillum.
Richmond.....	Wayne.....	973	17	24.2	- 7.0	61	4 - 10	30 32	2.36	- 0.45	0.50	8.3	12	7	8	16	w.	Elisha Jones.
Rochester.....	Fulton.....	775	.....	22.4	.....	65	4 - 10	30 33	3.34	.....	1.30	20.1	9	7	4	20	w.	Walter Vossler.
Rookville.....	Parke.....	723	15	23.8	- 9.8	60	4 - 13	30 33	2.44	- 0.17	0.41	11.0	10	5	6	20	w.	J. P. Keith.
Rome.....	Perry.....	370	.....	27.0	.....	73	4 - 9	30 34	3.41	.....	0.82	2	5	24	24	nw.	Dr. W. N. Wirt.	
Salamonia.....	Jay.....	23, 2	.....	62	4 - 11	30 26	2.38	.....	0.55	11.5	12	4	2	25	nw.	Adam Anspach.		
Salem.....	Washington.....	717	11	27.0	- 5.4	65	4 - 12	30 33	4.18	+ 0.86	1.25	6.0	11	10	6	15	w.	C. V. Skinner.
Scottsburg.....	Scott.....	570	10	29.0	- 7.3	64	4 - 2	30 31	3.32	+ 0.07	1.06	7.0	11	7	10	14	w.	E. S. Allen.
Seymour.....	Jackson.....	610	14	26.4	- 8.8	65	4 - 10	30 33	3.60	+ 0.67	1.04	4.9	11	13	9	9	w.	F. H. Park.
Shelbyville.....	Shelby.....	23, 8	.....	60	4 - 16	30 29	2.43	.....	0.51	9.0	11	2	19	10	10	w.	J. R. Blair.	
Terre Haute.....	Vigo.....	498	11	25.2	- 7.8	61	4 - 7	30 31	3.10	+ 0.45	0.56	10.5	10	8	5	18	sw.	B. F. Crouch.
Veedsburg.....	Fountain.....	613	.....	22.6	.....	61	4 - 13	30 26	2.98	.....	0.60	12.0	8	13	3	15	sw.	R. G. Gillum.
Vevay.....	Switzerland.....	535	19	29.2	- 7.3	65	4 - 2	30 31	2.35	- 0.52	0.50	8.0	10	9	8	14	ne.	L. A. Culver.
Vincennes.....	Knox.....	431	10	25.8	- 7.5	64	4 - 6	30 32	4.95	+ 1.87	1.25	4.5	8	9	1	21	w.	Miss Frederica Boerner.
Washington.....	Davies.....	484	7	26.9	.....	64	4 - 3	30 41	3.90	.....	1.08	2.5	8	1	20	w.	G. V. List.	
Whitestown.....	Boone.....	21, 9	.....	59	4 - 13	30 30	2.97	.....	0.46	0.55	10.0	9	1	19	11	w.	H. B. Turrell.	
Winona Lake.....	Kosciusko.....	21, 1	.....	52	4 - 13	30 27	2.62	.....	0.58	16.6	13	2	15	14	16	w.	C. A. Stevenson.	
Worthington.....	Greene.....	526	20	25.2	- 7.8	61	5 - 9	30 33	4.04	+ 0.98	0.85	5	5	10	16	w.	Rev. A. A. Young.	
Illinois	Edwards.....	531	17	26.2	- 7.5	64	4 - 7	30 27	3.28	- 0.02	1.23	4.0	9	12	4	15	w.	C. A. Geckler.
Cairo.....	Alexander.....	359	33	24.1	- 8.2	69	1 - 4	9 33	2.63	+ 0.24	0.37	12.2	12	4	11	18	w.	B. F. Michela.
Charleston.....	Coles.....	720	18	24.1	- 8.2	68	4 - 3	30 31	3.86	.....	1.20	5.0	9	10	10	11	w.	U. S. Weather Bureau.
Equality.....	Gallatin.....	421	9	30.2	.....	68	4 - 6	30 32	3.34	- 0.51	0.61	4.5	6	13	1	17	nw.	Jacob B. Dasey.
Fairfield.....	Wayne.....	495	18	27.0	- 7.1	66	4 - 8	30 32	2.45	- 0.36	0.94	6.5	8	7	14	15	nw.	Dr. L. W. Gordon.
Flora.....	Clay.....	495	23	25.2	- 8.7	62	4 - 8	30 32	2.45	- 0.76	0.76	0.76	10	6	15	nw.	George A. Tromly.	
Golconda.....	Pope.....	500	30	29.6	- 7.6	66	4 - 5	30 30	5.23	+ 1.60	1.01	4.5	10	9	4	18	nw.	Joe S. Peak.
Hooperston.....	Vermillion.....	715	7	21.1	.....	59	4 - 13	30 31	3.61	.....	0.84	18.6	15	9	4	18	nw.	Dr. D. Lawrence.
McLeansboro.....	Hamilton.....	462	26	27.3	- 8.4	68	4 - 5	30 29	3.58	+ 0.52	1.48	6.0	9	11	7	13	nw.	C. C. Judd.
Martinsville.....	Clark.....	630	20	22.7	- 10.5	62	3 - 10	30 29	3.03	+ 0.80	1.00	10.0	10	6	8	17	nw.	G. M. Daugherty.
New Burnside.....	Johnson.....	556	14	29.8	- 6.1	68	4 - 5	30 31	3.06	- 0.21	1.60	1.2	5	10	10	11	n.	George Harris.
Olnsey.....	Richland.....	486	19	26.3	- 8.7	63	4 - 6	30 28	3.28	+ 0.47	1.13	6.2	9	8	7	16	w.	Victor E. Phillips.
Palestine.....	Crawford.....	500	26	27.0	- 5.7	61	4 - 9	30 32	3.32	+ 0.76	0.76	0.76	6	5	8	18	w.	Alexander Charley.
Paris.....	Edgar.....	600	12	22.0	- 7.0	61	4 - 9	30 40	2.92	+ 0.48	0.85	14.0	8	7	10	14	sw.	H. W. Twymann.
Philo.....	Champaign.....	700	24	30.3	- 9.5	60	4 - 14	30 34	2.37	+ 0.12	0.52	13.8	13	8	16	w.	H. A. Burr.	
Rantoul.....	do.....	768	18	20.8	- 8.3	60	4 - 13	30 33	2.36	+ 0.22	0.60	16.0	7	10	7	14	nw.	Wm. Breiner.
Robinson.....	Crawford.....	500	9	26.4	.....	60	4 - 6	30 28	2.90	.....	0.65	7.0	8	5	8	18	sw.	A. P. Woodworth.
Summer ^c	Lawrence.....	459	26	26.5	.....	62	4 - 5	30 30	3.10	.....	1.23	6.6	9	10	4	17	nw.	O. A. Fyffe.
Tuscola.....	Douglas.....	644	10	22.0	- 7.6	61	1 - 13	30 39	2.74	+ 0.11	0.83	10.0	9	13	2	16	w.	E. W. Lester.
Urbana ^c	Champaign.....	725	7	20.0	.....	60	4 - 13	30 36	2.55	.....	0.65	18.0	9	3	19	9	w.	Prof. J. G. Mosier.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Data are from standard instruments not supplied by the U. S. Weather Bureau.

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

|| Estimated by observer.

||| Precipitation for the 24 hours ending on the morning when it is measured.

TABLE 2.—*Daily precipitation for December, 1909. District No. 3, Ohio Valley.*

Stations.	River basins.	Day of month.																													Total			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>New York.</i>																																		
Allegany.	Allegheny.																																	3.09
Bolivar.	do.																																1.43	
Franklinville.	do.																																1.86	
Jamestown.	do.																																	
Olean.	do.							*	20	*	01																					1.64		
<i>Maryland.</i>																																		
Deer Park.	Youghiogheny.																																3.89	
Grantsville.	do.																																5.62	
Oakland.	do.																																2.78	
<i>Pennsylvania.</i>																																		
Aleppo.	Ohio.																																1.92	
Baldwin.	Allegheny.																															3.27		
Beaver Dam.	Ohio.																															2.53		
California.	Monongahela.																																	
Clarion.	Allegheny.																																	
Claysville.	Ohio.																															2.23		
Confluence.	Youghiogheny.																															3.34		
Davis Island Dam.	Ohio.																															2.81		
Derry Station.	Allegheny.																																	
Franklin.	do.																															2.42		
Freepoint.	do.																															3.43		
Greensboro.	Monongahela.																															2.02		
Greensburg.	Youghiogheny.																															2.05		
Greenville.	Ohio.																															2.48		
Grove City.	do.																															2.36		
Herrs Island Dam.	Allegheny.																															2.33		
Indiana.	do.																															3.14		
Irwin.	Monongahela.																																	
Johnstown.	Allegheny.																															1.79		
Lock No. 4.	Monongahela.																															3.70		
Lycipus.	Allegheny.																															1.67		
Parkers Landing.	do.																															3.05		
Pittsburgh.	Ohio.																															2.84		
Saegerstown.	Allegheny.																															2.36		
St. Marys.	do.																															2.97		
Saltzburg.	do.																															2.59		
Skidmore.	Ohio.																															2.14		
Somerset.	Youghiogheny.																															3.69		
Springdale.	Allegheny.																															2.43		
Uniontown.	Monongahela.																															2.54		
Warren.	Allegheny.																															2.47		
<i>West Virginia.</i>																																		
Arbvale.	Great Kanawha.																															1.90		
Bancroft.	do.																															2.25		
Beckley.	do.																															3.16		
Ben's Run.	Ohio.																																	
Bluefield.	Great Kanawha.																																	
Brandonville.	Monongahela.																															2.46		
Buckhannon.	do.																															2.65		
Cairo.	Little Kanawha.																															2.17		
Central Station.	Middle Island Creek.																															1.69		
Charleston.	Great Kanawha.																															2.06		
Creston.	Little Kanawha.																															1.94		
Cuba.	Sand Creek.																																	
Davis.	Monongahela.																																	
Elizabeth.	Big Sandy.																															2.82		
Elkhorn.	Little Kanawha.																															2.02		
Elkins.	Big Sandy.																															2.96		
Fairmont.	Monongahela.																															2.52		
Glenville.	Little Kanawha.																															2.72		
Grafton.	Monongahela.																															1.67		
Green Sulphur Springs.	Great Kanawha.																															2.35		
Hinton.	do.																															2.35		
Huntington.	Great Kanawha.																															2.85		
Lewisburg.	do.																															2.36		
Logan.	Great Kanawha.																															2.36		
Lost Creek.	Monongahela.																															2.40		
Madison.	Great Kanawha.																																	

TABLE 2.—*Daily precipitation for December, 1909. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for December, 1909. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for December, 1909. District No. 3—Continued.*

Stations.	River basins.	Day of month.																													Total.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Kentucky—Cont'd.																																		
Shelbyville||	Salt.....	.30	.10		.23	.73	T.		.19	.24	.90	.06	.03	.03																			3.31	
Taylorville||	do.....	.32		.23	.72				.30	.28	.70		.04																				3.09	
Williamsburg||	Cumberland.....	.12	.35		.04	.86				.11	.30																						2.05	
Williamstown||	Licking.....	.10		.26	.67				.01	.24	.79	.27		.06																		2.82		
Indiana.																																		
Anderson.....	West Fork, White.....	.01		T.	.09	T.	.36		T.		.54	.63	.35	.02	T.	T.	T.					T.	T.	T.	T.	.50	.02	.01	.01	T.		2.54		
Bloomington||	do.....	.56	.03		.20	.70	T.			.52	.95	.1.02	.05	.03	.01							T.	T.	T.	T.	.38	.25			T.	.05	4.75		
Bluffton.....	Wabash.....	.05		.08							.80	.50	.02																					2.41
Butlerville.....	Muscatatuck.....	.18		.27	.54						.78	.42	.72	.06	.13																		3.77	
Cambridge City||	Whitewater.....	.02		T.	.13	.23	.09				.18	.60	.80	.25	T.	.02	T.	T.	T.													3.00		
Columbus||	East Fork, White.....	.11	.02		.10	.50					.36	.55	.79	.02	.01																	2.91		
Connersville.....	Whitewater.....	.03	T.	T.	.07	.42	T.	T.			.61	.71	.45	.02	T.							T.	T.	T.	T.	.50	T.	T.			2.81			
Delphi||	Wabash.....	T.	.02	.02	.30	.31	.17	*			.19	.38	.64	.03	T.	.02						T.	T.	T.	T.	.58	.16	.10	.02	.05	3.04			
Eminence.....	West Fork, White.....	.20		.10	.20	.15					.25	.10	.40	.05	.05																	2.29		
Evansville.....	Ohio.....	.11	.11		.37	.15	.17			T.	.13	.64	.38	T.	T.							T.										3.48		
Farmersburg.....	Wabash.....	.03		.33	.33	.14					.45	.41	.52	T.																		2.71		
Farmland||	West Fork, White.....	.03			.20	.13					.30	.18	.80	.18		.03																2.48		
Greenfield.....	East Fork, White.....	T.		T.		.73					.54	.71	.42	T.								T.										3.10		
Greensburg.....	do.....	T.		.17		.43					.48	.51	.65	T.	.09																	3.08		
Hintonville.....	Patoos.....	.59			.24	.33					1.54	.64	.75																			4.83		
Huntington.....	Wabash.....	T.		T.	.45						.25	.85	.38	.03	T.	.03																2.93		
Ind.anapolis.....	West Fork, White.....	.13	T.	.02	.14	.46					T.	.56	.70	.20	.01							T.	T.								2.90			
Jeffersonville.....	Ohio.....	.38	T.	.27	.54						T.	.70	.34	.41	T.	.02							T.									3.05		
Judyville.....	Wabash.....	.65	.02	T.	.25	T.	.08				T.	.05	T.	T.	.01																	3.16		
Kokomo.....	do.....	.16		.33	.41						.26	.67	.35	T.	T.							T.	T.	T.	T.	.45	T.	T.			2.53			
Lafayette||	do.....	.07	T.	.03	.39	.18	.10				.07	.33	.58	.05	T.	.04						T.	T.	T.	T.	.58	.54	.05	.03	.02	3.06			
Logansport||	do.....	.06		.25	.27						.17	.47	.73	T.	T.																		2.76	
Madison.....	Ohio.....	.28	.03		.18	.62					.85	.38	.72	.03		.03																3.75		
Marion.....	Big Blue.....	.80		.21	.40						.40	.72	.70	T.	.05							T.										3.53		
Markle.....	Mississinewa.....	.11		.17	.40						.32	.79	.37	T.	.06	T.						T.	T.									3.53		
Mausy.....	Wabash.....	T.		.20	.29						.10	.50	.40	T.	T.							T.	T.									2.60		
Moore Hill.....	East Fork, White.....	.02	T.		.10	.35					.48	.54	.50	T.	.10	T.						T.	T.	.03	T.	.70	.10	.15	T.		3.17			
Ohio.....	do.....	.07	T.		.12	.59					.25	.83	.64	.02	.04	.03																2.83		
Mt. Vernon||	do.....	.06	T.		.06	.40	.24				.74	.08	.42	.10																			3.12	
Paoli.....	East Fork, White.....	.67			.23	.35					1.30	.33	.33	T.								T.	T.	.44	*	*.01					3.65			
Princeton.....	Patoos.....	.52		.10							1.68	.59	.20	.10																		3.64		
Richmond.....	Whitewater.....	.06			.15	.50						1.20	.53	T.	T.	T.						T.		.17	.27	.01	.03	.02			2.36			
Rochester.....	Tippecanoe.....	.23	.02	.60								.10	.41	.31	.33	T.						T.										3.34		
Rockville.....	Wabash.....	.34	T.	.06	.41	.18						.32	.28	.18	.21	T.						T.	T.									2.44		
Rome.....	do.....	.51	.02	.11	.50							.82	.33	.50	T.	.03						T.										3.41		
Salamaonia.....	Big Blue.....	.02		.15	.01	.36						.24	.55	.37	T.	T.						T.										2.38		
Scottaburg.....	Muscatatuck.....	.36			.28	.34						1.25	.50	.54	.08	T.						T.										4.18		
Seymour.....	East Fork, White.....	.21			.14	.40	T.					1.04	.32	.47	.02	.03						T.										3.32		
Shelbyville.....	do.....	.07	T.	T.	.10	.50						.41	.51	.24	.05	.05	T.						T.										2.43	
Terre Haute.....	Wabash.....	.30		.20	.30	.10						.40	.66	.56	.12							T.										3.10		
Veedersburg.....	do.....	.48		.30	.30							.43	.55	T.	T.						T.										2.98			
Vevay.....	Ohio.....	T.	.10		.25						.05	.05	.40	.50	T.	.15																2.35		
Vincennes||	Wabash.....	.35	T.		.80	.45						.50	1.25	1.00	.10	T.						T.										4.95		
Washington||	West Fork, White.....	.21			.05	.30	.80					.48	1.06	.90	.05							T.										3.90		
Whitestown.....	do.....	.20			.53	.30	.30					.33	.48	.45	.08	T.						T.										2.97		
Winona Lake.....	Tippecanoe.....	.14		.20	.31						.07	.54	.57	T.	T.	.03						T.										2.63		
Worthington.....	West Fork, White.....	.52	T.		T.	.45	.34	T.				.54	.66	.85	.09	.03	.02				T.										4.15			
Illinois.	Wabash.....	.10			.30	.45					T.	.13	.30	.05	T.	T.																3.28		
Albion.....	do.....	.05			.04						.22	.36	.27	.22	.01						T.										2.63			
Charleston.....	Equality.....	.02	.06	T.	.49						T.	.20	.82			T.						T.										3.86		
Fairfield.....	Wabash.....	.38																															2.34	
Flora.....	do.....	.07	T.	T.	.05	.28																											2.45	
Goleconda.....	Ohio.....	.74	T.	.11	T.	.71	.52				</td																							

TABLE 3.—Maximum and minimum temperatures at selected stations, December, 1909. District No. 3, Ohio Valley.

Date.	Pennsylvania.								West Virginia.								Ohio.													
	Greenville.		Pittsburg.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.		Morgantown.		Parkersburg.		Wheeling.		Canton.		Cincinnati.		Columbus.		Dayton.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1...	55	19	55	32	60	30	61	28	59	20	63	20	56	24	58	25	61	28	54	23	52	27	61	34	57	33	58	26		
2...	50	20	51	33	56	31	64	31	57	22	56	21	49	33	60	35	54	31	48	33	50	28	49	43	53	39	56	34		
3...	51	17	46	27	57	43	60	30	43	24	50	29	54	40	48	30	51	36	45	23	45	27	51	50	52	44	44			
4...	40	23	50	38	65	43	62	34	59	36	62	36	48	42	60	38	57	31	50	32	61	44	59	41	62	44	44			
5...	61	30	65	40	71	42	70	39	71	30	75	31	73	29	69	31	71	33	68	35	65	37	65	30	67	23	67	35		
6...	60	21	50	28	70	30	64	28	54	24	68	31	45	29	64	30	44	30	45	28	41	23	40	25	37	23	38	22		
7...	48	20	54	30	59	35	58	35	55	23	57	24	49	22	54	27	57	31	53	26	45	24	43	19	45	19	44	25		
8...	30	9	30	11	39	26	44	23	30	18	38	25	30	10	37	20	33	14	26	21	24	3	33	19	4	25	8			
9...	16	7	15	6	34	13	39	14	18	10	28	9	23	10	21	6	20	8	18	5	13	4	21	6	15	4	14	4		
10...	35	14	32	12	30	15	38	10	24	12	29	14	30	14	22	13	26	12	30	9	23	4	27	9	25	6	23	6		
11...	29	23	34	16	40	25	55	20	33	15	36	17	40	29	29	15	31	22	32	13	27	18	33	24	30	22	31	20		
12...	34	27	41	30	55	29	60	34	48	32	55	33	53	37	44	25	50	31	43	20	45	33	42	30	40	31	31	31		
13...	41	32	54	32	59	36	58	40	52	32	53	38	56	33	44	35	54	35	46	32	42	31	51	32	48	31	30	30		
14...	41	30	34	30	45	34	40	23	33	29	48	33	41	32	46	30	38	33	35	32	33	37	32	34	30	33	30			
15...	32	25	33	26	44	34	45	30	38	27	39	32	34	25	34	29	38	31	31	25	33	32	32	26	33	30	33	26		
16...	26	11	26	21	35	25	35	20	27	12	33	24	36	22	35	21	32	22	30	24	25	20	29	20	30	19	20	19		
17...	32	14	36	19	42	35	43	23	38	12	44	12	42	16	43	20	40	21	41	17	35	13	32	15	33	18	32	18		
18...	21	12	19	11	42	17	40	18	25	13	38	15	23	12	33	12	21	12	19	14	17	8	18	7	16	8	19	7		
19...	21	8	17	8	23	15	31	15	19	9	23	8	23	9	18	8	21	12	19	9	17	5	20	6	20	7	20	7		
20...	23	1	23	9	23	12	28	12	25	11	27	7	28	9	23	9	26	10	26	9	22	5	26	12	22	8	24	8		
21...	25	5	28	17	36	12	35	21	30	16	35	9	36	18	29	15	34	18	24	10	26	13	34	19	30	15	32	16		
22...	29	13	28	15	36	19	29	15	28	15	32	17	28	20	29	14	29	16	28	16	24	9	24	16	25	13	23	13		
23...	30	24	28	23	32	21	32	23	25	17	27	20	33	12	24	17	28	20	29	17	27	18	34	18	32	18	32	19		
24...	27	15	31	17	39	12	38	22	35	14	37	7	39	12	32	15	35	12	34	10	28	10	33	17	32	12	31	12		
25...	30	16	36	25	39	28	39	26	35	25	39	24	40	27	37	25	39	30	36	10	33	23	35	26	36	25	35	26		
26...	32	22	29	19	34	27	26	12	25	20	35	27	30	20	33	24	30	25	34	28	31	18	30	17	29	16	28	16		
27...	28	14	26	18	35	26	33	17	26	18	28	22	33	20	26	19	29	22	24	17	21	13	29	16	25	15	25	16		
28...	22	15	22	16	33	21	35	18	22	15	29	19	29	19	30	12	23	17	26	18	23	17	21	12	30	14	24	14		
29...	18	4	21	4	30	11	25	6	20	6	23	9	17	10	20	8	26	12	19	10	18	2	3	16	19	6	19	7		
30...	17	4	11	1	17	5	11	0	9	—	2	15	5	23	0	14	1	14	1	28	—	2	11	7	20	—	4	13	—	5
31...	25	10	30	9	41	13	37	6	36	0	42	1	40	2	31	4	37	14	37	6	28	8	39	17	33	16	35	13	33	
Mns	32.8	16.3	33.7	20.0	42.6	24.3	42.7	21.6	35.2	17.9	40.9	20.1	38.5	19.9	36.2	19.7	37.3	21.9	35.5	18.3	30.9	16.5	35.4	20.5	33.0	18.7	33.8	19.0		

Date.	Ohio.				Virginia.				Tennessee.				Waynesboro.				Beattyville, Ky.								
	Marion.		Waverly.		Big Stone Gap.		Wytheville.		Asheville, N. C.		Decatur, Ala.		Chattanooga.		Jonesboro.		Knoxville.		Nashville.		Palmetto.		Sparta.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	61	27	61	20	59	27	55	21	58	27	43	59	42	58	34	64	39	61	41	63	32	61	45	70	21
2...	55	32	51	24	47	28	55	25	52	27	45	50	42	49	38	61	46	53	45	50	46	53	45	52	23
3...	47	39	54	42	61	39	59	37	61	40	47	61	45	59	42	54	44	58	42	64	46	66	37	63	31
4...	59	32	66	36	60	35	59	36	66	36	39	60	41	60	37	72	42	73	68	71	37	73	55	35	
5...	67	45	74	33	68	34	67	31	64	32	55	60	41	63	36	60	38	63	45	72	34	61	43	70	30
6...	54	23	58	22	60	32	56	36	61	40	37	51	35	55	35	52	39	49	28	60	26	61	30	54	21
7...	43	27	46	27	57	35	53	30	62	29	44	34	42	56	32	53	30	58	30	53	29	50	23		
8...	29	5	32	13	58	28	34	26	35	24	37	26	41	27	37	26	32	17	34	22	35	22	35	19	
9...	20	3	24	6	33	15	27	15	28	23	27	32	19	30	19	27	18	30	13	35	12	28	12	29	6
10...	23	6	30	8	36	12	31	12	43	13	42	18	19	37	37	43	31	37	30	41	16	42	13	45	6
11...	25	20	32	24	46	23	53	23	55	20	52	20	44												

TABLE 3.—*Maximum and minimum temperature at selected stations, December, 1909. District No. 3—Continued.*

Date.	Kentucky.												Indiana.												Philo, Ill.			
	Bowling Green. Ky.		Erlanger. Ky.		Greenburg. Ky.		Lexington.		Louisville.		Mayfield. Ky.		Williamsburg. Ky.		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1...	65	33	64	31	65	23	61	38	62	37	66	23	63	46	61	37	63	41	58	36	57	26	60	32	55	27	57	32
2...	57	45	63	45	53	27	49	42	53	44	46	24	47	28	55	42	59	47	48	42	47	39	60	44	61	28	53	46
3...	57	42	59	45	55	37	55	43	52	45	53	27	72	35	54	45	59	48	48	45	45	43	48	43	50	46	54	46
4...	72	39	73	43	72	35	65	40	67	44	66	39	75	36	63	45	69	48	60	46	60	48	51	46	60	44	51	46
5...	62	45	57	53	59	35	61	30	59	30	72	34	63	36	58	35	61	30	56	25	55	26	57	24	61	47	56	32
6...	53	24	45	23	52	22	42	24	42	26	50	20	68	24	44	20	41	25	35	21	33	20	35	20	58	22	33	20
7...	39	35	33	25	43	22	51	23	40	17	51	20	55	27	40	25	35	16	33	7	29	11	32	7	38	23	31	2
8...	28	12	24	12	28	13	23	8	23	9	27	13	37	23	25	6	18	9	9	1	12	1	2	7	29	5	5	7
9...	26	6	25	7	25	5	19	4	23	7	25	5	21	10	19	3	20	5	11	1	9	4	10	5	12	1	8	9
10...	40	12	40	8	37	5	32	11	33	13	31	5	41	11	27	7	33	14	24	4	21	1	22	0	15	1	21	8
11...	47	22	49	17	46	10	41	27	39	30	37	13	55	16	34	22	40	33	34	24	30	17	34	21	34	12	34	21
12...	55	38	51	32	55	23	49	40	49	38	49	27	55	36	43	29	48	36	43	34	39	29	43	33	38	34	36	33
13...	38	33	32	30	40	36	50	29	51	32	51	35	53	48	50	28	36	29	45	28	40	29	42	29	44	34	33	28
14...	50	26	45	30	49	27	41	28	41	32	40	30	53	31	32	28	38	30	32	28	31	27	42	27	34	31	31	26
15...	34	30	33	20	32	28	32	22	33	26	33	29	34	32	33	29	30	27	29	20	21	30	23	33	29	29	22	
16...	42	21	43	21	40	21	34	11	38	24	36	21	45	25	38	19	39	23	33	16	35	10	33	12	30	20	33	7
17...	40	27	29	25	41	22	35	16	38	15	38	29	46	21	34	17	36	16	33	7	33	10	33	8	34	16	32	3
18...	18	12	17	13	18	12	16	9	18	10	19	9	13	18	17	5	17	10	15	3	13	1	18	2	31	6	11	1
19...	24	13	23	13	22	10	18	9	20	10	23	7	23	16	20	5	19	13	17	4	14	1	16	1	17	5	13	6
20...	33	9	32	8	31	6	25	10	30	14	30	6	33	13	26	7	32	15	23	6	31	4	24	3	20	6	23	4
21...	40	16	37	10	29	5	34	15	35	20	38	6	43	10	34	15	34	19	25	14	14	14	23	3	27	6	18	10
22...	25	19	24	17	25	7	23	14	27	19	25	14	33	10	30	14	27	19	24	14	23	13	23	14	31	15	24	14
23...	37	9	35	11	35	6	32	13	34	16	37	15	32	9	34	11	33	23	23	14	23	10	22	13	24	16	21	9
24...	37	20	36	13	38	6	34	20	36	22	36	10	45	10	33	13	34	29	29	15	30	11	29	14	27	15	23	8
25...	35	25	31	30	27	6	36	25	36	25	37	10	47	23	30	26	34	26	31	24	31	24	25	33	26	29	20	
26...	29	16	32	12	26	6	26	15	35	18	26	23	41	21	27	13	26	9	24	6	33	8	26	0	34	9	20	-2
27...	35	19	30	14	35	9	28	17	31	20	31	17	40	10	27	14	30	21	25	7	28	9	26	8	21	6	22	6
28...	35	20	33	20	35	19	29	13	32	10	31	15	35	17	26	14	31	9	24	8	33	6	23	7	26	15	22	4
29...	13	3	13	3	12	5	14	2	15	4	16	6	12	8	17	4	12	2	10	5	12	0	9	-2	29	1	6	-7
30...	28	3	31	-4	23	-7	17	-4	21	1	21	-4	27	6	15	-4	12	1	13	-8	11	-12	13	-13	10	-9	12	-14
31...	48	6	50	-4	35	-6	39	15	43	21	42	-3	42	7	38	12	42	23	37	13	33	7	37	11	19	-1	35	8
Mns	40.0	21.9	38.3	20.3	38.1	15.3	35.8	19.9	37.0	21.9	38.2	16.7	43.7	21.4	34.9	18.7	36.1	22.3	30.5	16.3	30.4	14.3	31.1	14.5	32.9	17.5	28.6	12.0